SEQUENCE LISTING

<110> Vasta, Gerardo R.
     Marsh, Adam G.
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<120> Assay for Perkinsus in Shellfish

<130> 4115-137 CIP

<140> US 09/771,935
<141> 2001-01-30

<150> US 08/900,117
<151> 1997-07-25

<150> US 60/023,345
<151> 1996-07-26

<160> 25

<170> PatentIn version 3.1

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tgcacgtttg gtcaaagatg ctcgcgaaag ctgcacatca atttcgcaca tgggcgaaat   240

tgacttgcag gtgggtataa aagttgatgt aggccatgtg gctcgatttc aaccatatgg   300

gtatgcttct gaggatgggg tgttacagtg gaccatatga ggtaggtcat ttggagatgt   360

caccaaaatg gtctaaatct gcgcattcca tttaagtgaa tttaagtgaa atttaagtga   420

attttactta aaattgacct ttttcgttgc gcagatttgg ggtggtgatg ggtgacgcgg   480

cgaatttttt aaaaaagagg tatatcgcgt gctatttgta tttttggtat caccgcgtca   540

ccaatcacca ttgacggttt cttttttcgaa gttttttccgg attattgcat tttttatata   600

attgtgggtg gctgattctt gcgaaaggac tgttgtgatg tccgagttcc caaattggga   660

gttttttggac atcactcctg atctgccggc ggcgatcagg atgactgaca tttcgatata   720

ttttgggtat tcgatagctg ccaaatcggt cagcgtcgag tattccggtt tattcgaagg   780

attcatgata ttgcaaaata tcattgattt tcatggggtt ttgtattagt acccgctcat   840

tgtgggaaag tcgggtggat ttatcttacc cgcaaatcta atacaagatt tgcatgatgc   900

agcaatagac caaggttagt atagcagttg tatttatacg actagttatg caaacccttt   960

gtgttttttg ttgcgactct tggcgtgaac cggaagaccg gacctcgctt tcgactattc   1020

atctttgatg gatatgagat cgcaagggta tcgcttcgtg cgatatttag tgaccatcag   1080

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<212> DNA
<213> Perkinsus sp.

<220>
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<223> The nucleotide sequence of the NTS of rRNA of P. andrewsi, isolat
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cacaaattct caaattggac aacattggac aaaaattcac aacatacatt ggacaacagt   180

ggacaacgaa cccaaacccg acaacattgt ccaggggggat aggggggtgaa aaagcagtgc   240

cggcaaagtc gaaagatgtc aagttggaat gcggctcaaa ttcgtcattt gtgtaaatcc   300

gcaattttgc caatgtgcaa ttttgcaaat gtgcaatttt gcaaatgtgc aattttgcca   360

atgtgcaatt ttgcaaatgc gcaattttgc aaatccgcaa ttttgcaaat gtgcaatttt   420

ggaaaatcac caaatgaaaa tcgtccaagt cgaattggag gcgtggtgac atggtcccgg   480

gatcccctgg ttacagtgga caatatccca gcaatattcg ctgtaatttg gagtttcgct   540

gttttggcaa attttgagtc tgaaaaaaaa aattgcaaat gcgcaaaggg ggtgaaggaa   600

aaaaaagcac ccccgaaggt aaaattccct ttaagtccct tgcgcatttg caaaattttc   660

aaaaattgtt gcaaatgcgc ttttgttatt tggccggttc attggtgtca aaagttgcct   720

ggggtggtta cacaatgcac ggaattggtt ggaagttgtg tgattgaaaa ttggtcgtgt   780

cacacaattt tgcgcatttg caaaaattcg caaattggac aaaaaagggt cgcgcacagt   840

caaattgcgc aaatttcact ttgaagtgag tgcgcatttg tggggcagaa atgtggtgac   900

agcatcgttt tttataataa atattctata tttagtatct ttattataat ttgctgtcac   960

caatcaccat tttagaattt ttattttttt atgttttagt gaccgcggga ttttttgcaa   1020

agtactattg tgatgtttga gttgtttgaa atgggcaatt tagaacatca tcagaaatcg   1080

ctgaatagtg attttttgagt ttgactgttt gaagtgtttt gggtattcgg cagctgccaa   1140

atcggtcagc gtcgaatata atagcatttt tgtgtgtata tgatatttag cgatatcatt   1200

ggaatcatgg ggttttgtat tagtacccgc tcattgtggg aatgtcgggt ggttcaatat   1260

cacctgcaaa tttaatacag gatttgcatg atgcagcgac tgaccggggt tggtataata   1320

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gctgattatt cggcttatta tgcagaccta tcgtgttagt agttgcgact cttggcgtga      1380

accggaagac cggaacttga attcgactat ttacgtccgt aaacaggaga tttcaagaat      1440

attgcacatt ttgcgtgata taaacgtgat catctgagca cgcttcgact cttggatatc      1500

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<213> Perkinsus sp.

<220>
<221> gene
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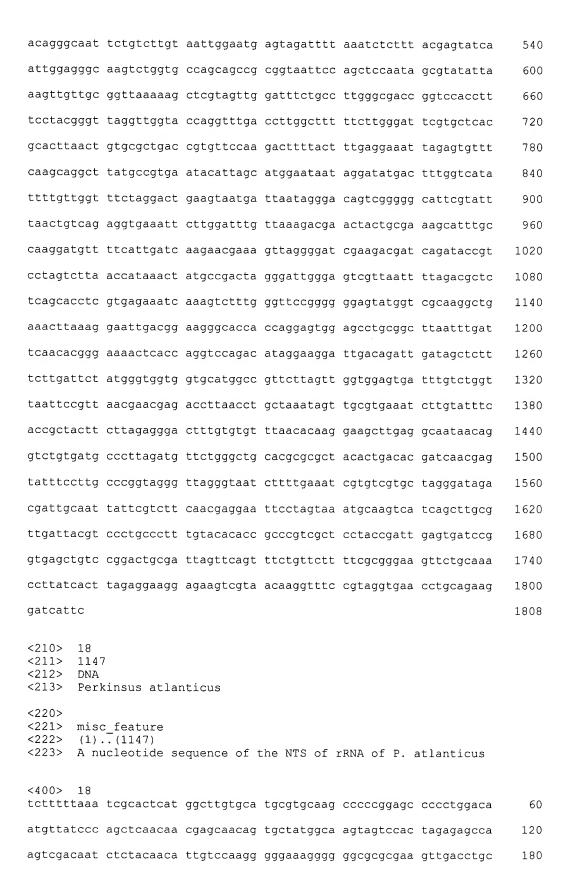   isolated from Mercenaria mercenaria.

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tgtcaatttt gacagtgtgt gaaaaaactg aaaaagtcca ctcaacattg cattatgcaa       180

tttgccactc aacattgtcc agggggatag ggggtgaaaa agtatcgcag tccaactgaa       240

aagatgctaa gttgaaatgc ggcgcaaatt catcacttga gttgcgaaaa tccctaaagt       300

cgaatttggc actcggtgac atgatcggga atttccctgg ttacagtggt caaatcccag       360

caattttggc aaagtttttg agtttcgcac tttttcgcaaa tttcgtgtct gaaaaaaaaa      420

tttcaacttt gcgcaaaggg gtcaaaggga aaaaaagcac cctcaaaagg aaatttccct       480

ttaatcccct ttgaaaaaaa tgcgcaaagt taaatttgcg aaaatttcga ttttctcata       540

tgaccgatta gttggtgcca gatggtagtc gggatggtta cacggtgcac ggaactcgtt       600

ggaagttctg gagttacgaa ttggtcccgt caccacaatt tgcgcatttt tgaaattgcg       660

caaatttgcg aaaaaagcag cgcgcaaagt taaattgtgc gaaaattgac tttcaggtcg       720

gtgcgcaaat ttggggtgaa aaagtggtga cagcatcaga attataataa ataatctata       780

atctagttct tttattataa ttagctgtca ccaatcacca tttgagattt tttatttttt      840

tatgttttag tgaccgcggt attttttcca gagtactatc gtgatgtctg agttgtctaa       900

aacggcaatt tcagaacatt accagaaaac actgaatagt ggtttctgag tctgactgtt       960

tgaagtgttt tgggtattcg gcagctgcca attcggtcag ggttgaatat actaacattt      1020

ctgtgtgtat atggtattta gcgatatcat tggaatcatg gggtttttgta ttagtacccg     1080

ctcattgtgg gaaagtcggg tggttcaata tcacctgcaa atttaataca ggatttgcat      1140

gatgcagcga ctgaccgggg ttagtataat agctgattat tcggcttatt atgcagacct      1200

atcgtgttag tagttgcgac tcttggcgtg aaccggaaga ccggaacttg atttcgacta      1260
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tttacgtccg taacacgtcc gtaaacagga gatttcaaga atattgcaca ttttgtgtga    1320

tataatcgtg atcatctgag cacgcttcga ctcttgaata tttgttaaac aaccgatatt    1380

cgggagctcg caagcattgc aattgatgca atc                                 1413
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<213>   Perkinsus marinus

<220>
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<222>   (1)..(21)
<223>   Forward primer (5'-3').


<400>   4
cacttgtatt gtgaagcacc c                                               21


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<212>   DNA
<213>   Perkinsus marinus

<220>
<221>   misc_feature
<222>   (1)..(21)
<223>   Reverse primer (5'-3').


<400>   5
ttggtgacat ctccaaatga c                                               21


<210>   6
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<212>   DNA
<213>   Perkinsus marinus

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<223>   Forward primer (5'-3').


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<223>   Reverse primer (5'-3').
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<210> 8
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<220>
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<223> Forward primer (5'-3')

<400> 8
atgctatggt tggttgcgga cc   22

<210> 9
<211> 20
<212> DNA
<213> Perkinsus atlanticus

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<223> Reverse primer (5'-3')

<400> 9
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<210> 10
<211> 24
<212> DNA
<213> Perkinsus sp.

<220>
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<223> NTS7 forward primer (5'-3') for Perkinsus andrewsi

<400> 10
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<212>  DNA
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<220>
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<223>  Generic forward primer (5'-3') PER1 for P. marinus, P. atlanticus
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<400>  12
tagtacccgc tcattgtgg                                                    19


<210>  13
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<212>  DNA
<213>  Perkinsus sp.

<220>
<221>  misc_feature
<222>  (1)..(17)
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<400>  13
tgcaatgctt gcgagct                                                      17


<210>  14
<211>  22
<212>  DNA
<213>  Perkinsus sp.

<220>
<221>  misc_feature
<222>  (1)..(22)
<223>  Forward SSU3F primer (5'-3') for P. andrewsi


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agttggattt ctgccttggg cg                                                22


<210>  15
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<212>  DNA
<213>  Perkinsus sp.

<220>
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<223>  Forward SSU4F primer (5'-3') for P. andrewsi


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<211>  712
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<212> DNA
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<222> (1)..(712)
<223> A nucleotide sequence of the ITS1-5.8. S ITS2 regions of P. andre
wsi

<400> 16
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ccaattgtac tagtctaaag tatccaatat cctttggat  tttggtattt caaaacgaaa     180

ttccaaactc tcaacgatgg atgcctcggc tcgagaatcg atgaaggacg cagcgaagtg     240

cgataagcac tgcgatttgc agaattccgt gaaccagtag aaatctcaac gcatactgca     300

caaaggggat ttatcctctt tgtacataca tatcagtgtc gctcttcttc ccgatacaaa     360

cattttgttg atttacaatc aacattatgc tttgtatccc gcttggattc ctttattggg     420

atccgctgtg tgcgcttgct gacacaggcg cattaatttg caaggctata atactactgt     480

actgtagccc cttcgcaaga aggactgcgc tagtgagtat ctttggatgc tcgcgaactc     540

gactgtgttg tggttgattc cgtgttcctc gatcacgcga ttcatcgctt caacgcatta     600

tgtcaaattt gatgaatgca gagagttgtt tatgaattac gcgatcgctt tggtctcaga     660

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<210> 17
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<212> DNA
<213> Perkinsus sp.

<220>
<221> misc_feature
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<223> A nucleotide sequence of the SSU rRNA of P. andrewsi

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gtgatcgatt actatttgga taaccgtagt aattctagag ctaatacatg cgtcaaggcc     180

cgacttcgga agggctgcgt ttattagata cagaaccaac ctagctccgc ctagtccttg     240

ttggtgattc ataataaccc ggcgaatcgc acggcttgtc cggcgatgga ccattcaagt     300

ttctgaccta tcagctatgg acggtagggt attggcctac cgtggcgttg acgggtaacg     360

gggaattagg gttcgattcc ggagagggag cctgagaaac gactaccaca tctaaggaag     420

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acagggcaat tctgtcttgt aattggaatg agtagatttt aaatctcttt acgagtatca        540

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aagttgttgc ggttaaaaag ctcgtagttg gatttctgcc ttgggcgacc ggtccacctt        660

tcctacgggt taggttggta ccaggtttga ccttggcttt ttcttgggat tcgtgctcac        720

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cctagtctta accataaact atgccgacta gggattggga gtcgttaatt ttagacgctc       1080

tcagcacctc gtgagaaatc aaagtctttg ggttccgggg ggagtatggt cgcaaggctg       1140

aaacttaaag gaattgacgg aagggcacca ccaggagtgg agcctgcggc ttaatttgat       1200

tcaacacggg aaaactcacc aggtccagac ataggaagga ttgacagatt gatagctctt       1260

tcttgattct atgggtggtg gtgcatggcc gttcttagtt ggtggagtga tttgtctggt       1320

taattccgtt aacgaacgag accttaacct gctaaatagt tgcgtgaaat cttgtatttc       1380

accgctactt cttagaggga ctttgtgtgt ttaacacaag gaagcttgag gcaataacag       1440

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gtgagctgtc cggactgcga ttagttcagt ttctgttctt ttcgcgggaa gttctgcaaa       1740

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gatcattc                                                               1808
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<211>    1147
<212>    DNA
<213>    Perkinsus atlanticus

<220>
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atgttatccc agctcaacaa cgagcaacag tgctatggca agtagtccac tagagagcca        120

agtcgacaat ctctacaaca ttgtccaagg gggaaagggg ggcgcgcgaa gttgacctgc        180
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agcagaggga aaagatgctg agttttgctg caccccaact ttgcgcactt ggcgaagttg      240

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catcattatc gaggtctgtg gtgacgatgg actagttttt agggattttc cggaggtgtc      360

accacggacc ccccaacttt gcgcacgggg ggtactcaat tttaagtgaa atttaagtaa      420

aatttactta aaattcacgt ttttgggtgc gcaaagttga ggtggtgact ggtgacacga      480

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ggggtaaata gtgtccgtca gaattttgcc aaaggactgt cgtgatgtcc gagttcccaa      660

attgagggtt tttggacatc gctctgaaat cgctaacggc gtttcagatt tccgactttt      720

cgacatattc tgggtatttg atagctgcca aatcggtcag cgtcgaatat tccaatattt      780

cgaaggatat atgatatcgc gagatatcat tggatttcat ggggttttgt attagtaccc      840

gctcatcgtg ggaaagtcgg gtgaatttat tcaacccgca aatctaatac aagatttgca      900

tgatgcagcg actgaccggg gtgagtgtag cagctgttct acggcttgct acgcagacct      960

atcgtgttag tagttgcgac tcttggcgtg aaccggaaga ccggacctcg ctttcgacta     1020

ttcattccga tgaatatgag attgcaaggg tatcgcttcg tgcgatattt agtgatcatc     1080

agagcacgct acgacttcag tatatcctcg gatacacaga agctcgcaag cattgcatga     1140

tgcaatc                                                            1147
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<210> 19
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<220>
<221> misc_feature
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<223> Generic forward PER1 primer (5'-3') for P. marinus

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<400> 20
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<210> 21
<211> 20
<212> DNA
<213> Perkinsus marinus

<400> 21
catctccaaa tgacctacct   20

<210> 22
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<400> 22
atgctagccc acatcacagc   20

<210> 23
<211> 20
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<213> Perkinsus marinus

<400> 23
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<210> 24
<211> 307
<212> DNA
<213> Perkinsus marinus

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gactagtgaa catagtttat aacattgtcc aaggggtgga gggggatgcg cgaaatcgat   120

gtgcacgttt ggtcaaagat gctcgcgaaa gctgcacatc aatttcgcac atgggcgaaa   180

ttgacttgca ggtgggtata aaagttgatg taggccatgt ggctcgattt caaccatatg   240

ggtatgcttc tgaggatggg gtgttacagt ggaccatatc aggtaggtca tttggagatg   300

tcaccaa   307

<210> 25
<211> 307
<212> DNA
<213> Perkinsus marinus

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gacgagtgaa catagtttat aacattgtcc aaggggtgga gggggatgcg cgaaatcgat   120

gtgcacgttt ggtcaaagat gctcgcgaaa gctgcacatc aatttcgcac atgggcgaaa   180

ttgacttgca ggtgggtata aaagttgatg taggccatgt ggctcgattt caaccatatg   240

ggtatgcttc tgaggatggg gtgttacagt ggaccatatg tggtaggtca tttggagatg   300

tcaccaa   307